## 1

#### Settler colonialism is a permeating structure that operates via the promotion of the nation-state – it thrives off of the elimination of indigenous people and their relationship to land – that appropriation turns them into ghosts

Tuck and Yang 12 (Eve Tuck and Wayne Yang; 2012; Decolonization: Indigeneity, Education & Society Vol. 1, No. 1, 2012, pp. 1-40; *“Decolonization is not a metaphor”*; accessed 12/7/21; <https://clas.osu.edu/sites/clas.osu.edu/files/Tuck%20and%20Yang%202012%20Decolonization%20is%20not%20a%20metaphor.pdf>; Eve Tuck is a Unangax̂ scholar in the field of Indigenous studies and educational research. Tuck is the associate professor of critical race and indigenous studies at the Ontario Institute for Studies in Education at the University of Toronto; K. Wayne Yang is Provost of John Muir College and Professor of Ethnic Studies at the University of California, San Diego; pages 5-7) HB \*brackets in original\* \*They use masculine pronouns to describe the settler not through direct association of the settler as a man but rather a dominating subject characterized as hypermasculine\*

Our intention in this descriptive exercise is not be exhaustive, or even inarguable; instead, we wish to emphasize that (a) decolonization will take a different shape in each of these contexts - though they can overlap4 - and that (b) neither external nor internal colonialism adequately describe the form of colonialism which operates in the United States or other nation-states in which the colonizer comes to stay. Settler colonialism operates through internal/external colonial modes simultaneously because there is no spatial separation between metropole and colony. For example, in the United States, many Indigenous peoples have been forcibly removed from their homelands onto reservations, indentured, and abducted into state custody, signaling the form of colonization as simultaneously internal (via boarding schools and other biopolitical modes of control) and external (via uranium mining on Indigenous land in the US Southwest and oil extraction on Indigenous land in Alaska) with a frontier (the US military still nicknames all enemy territory “Indian Country”). The horizons of the settler colonial nation-state are total and require a mode of total appropriation of Indigenous life and land, rather than the selective expropriation of profit-producing fragments. Settler colonialism is different from other forms of colonialism in that settlers come with the intention of making a new home on the land, a homemaking that insists on settler sovereignty over all things in their new domain. Thus, relying solely on postcolonial literatures or theories of coloniality that ignore settler colonialism will not help to envision the shape that decolonization must take in settler colonial contexts. Within settler colonialism, the most important concern is land/water/air/subterranean earth (land, for shorthand, in this article.) Land is what is most valuable, contested, required. This is both because the settlers make Indigenous land their new home and source of capital, and also because the disruption of Indigenous relationships to land represents a profound epistemic, ontological, cosmological violence. This violence is not temporally contained in the arrival of the settler but is reasserted each day of occupation. This is why Patrick Wolfe (1999) emphasizes that settler colonialism is a structure and not an event. In the process of settler colonialism, land is remade into property and human relationships to land are restricted to the relationship of the owner to his property. Epistemological, ontological, and cosmological relationships to land are interred, indeed made pre-modern and backward. Made savage. In order for the settlers to make a place their home, they must destroy and disappear the Indigenous peoples that live there. Indigenous peoples are those who have creation stories, not colonization stories, about how we/they came to be in a particular place - indeed how we/they came to be a place. Our/their relationships to land comprise our/their epistemologies, ontologies, and cosmologies. For the settlers, Indigenous peoples are in the way and, in the destruction of Indigenous peoples, Indigenous communities, and over time and through law and policy, Indigenous peoples’ claims to land under settler regimes, land is recast as property and as a resource. Indigenous peoples must be erased, must be made into ghosts (Tuck and Ree, forthcoming). At the same time, settler colonialism involves the subjugation and forced labor of chattel slaves5 , whose bodies and lives become the property, and who are kept landless. Slavery in settler colonial contexts is distinct from other forms of indenture whereby excess labor is extracted from persons. First, chattels are commodities of labor and therefore it is the slave’s person that is the excess. Second, unlike workers who may aspire to own land, the slave’s very presence on the land is already an excess that must be dis-located. Thus, the slave is a desirable commodity but the person underneath is imprisonable, punishable, and murderable. The violence of keeping/killing the chattel slave makes them deathlike monsters in the settler imagination; they are reconfigured/disfigured as the threat, the razor’s edge of safety and terror. The settler, if known by his actions and how he justifies them, sees himself as holding dominion over the earth and its flora and fauna, as the anthropocentric normal, and as more developed, more human, more deserving than other groups or species. The settler is making a new "home" and that home is rooted in a homesteading worldview where the wild land and wild people were made for his benefit. He can only make his identity as a settler by making the land produce, and produce excessively, because "civilization" is defined as production in excess of the "natural" world (i.e. in excess of the sustainable production already present in the Indigenous world). In order for excess production, he needs excess labor, which he cannot provide himself. The chattel slave serves as that excess labor, labor that can never be paid because payment would have to be in the form of property (land). The settler's wealth is land, or a fungible version of it, and so payment for labor is impossible.6 The settler positions himself as both superior and normal; the settler is natural, whereas the Indigenous inhabitant and the chattel slave are unnatural, even supernatural. Settlers are not immigrants. Immigrants are beholden to the Indigenous laws and epistemologies of the lands they migrate to. Settlers become the law, supplanting Indigenous laws and epistemologies. Therefore, settler nations are not immigrant nations (See also A.J. Barker, 2009). Not unique, the United States, as a settler colonial nation-state, also operates as an empire - utilizing external forms and internal forms of colonization simultaneous to the settler colonial project. This means, and this is perplexing to some, that dispossessed people are brought onto seized Indigenous land through other colonial projects. Other colonial projects include enslavement, as discussed, but also military recruitment, low-wage and high-wage labor recruitment (such as agricultural workers and overseas-trained engineers), and displacement/migration (such as the coerced immigration from nations torn by U.S. wars or devastated by U.S. economic policy). In this set of settler colonial relations, colonial subjects who are displaced by external colonialism, as well as racialized and minoritized by internal colonialism, still occupy and settle stolen Indigenous land. Settlers are diverse, not just of white European descent, and include people of color, even from other colonial contexts. This tightly wound set of conditions and racialized, globalized relations exponentially complicates what is meant by decolonization, and by solidarity, against settler colonial forces. Decolonization in exploitative colonial situations could involve the seizing of imperial wealth by the postcolonial subject. In settler colonial situations, seizing imperial wealth is inextricably tied to settlement and re-invasion. Likewise, the promise of integration and civil rights is predicated on securing a share of a settler-appropriated wealth (as well as expropriated ‘third-world’ wealth). Decolonization in a settler context is fraught because empire, settlement, and internal colony have no spatial separation. Each of these features of settler colonialism in the US context - empire, settlement, and internal colony - make it a site of contradictory decolonial desires7 . Decolonization as metaphor allows people to equivocate these contradictory decolonial desires because it turns decolonization into an empty signifier to be filled by any track towards liberation. In reality, the tracks walk all over land/people in settler contexts. Though the details are not fixed or agreed upon, in our view, decolonization in the settler colonial context must involve the repatriation of land simultaneous to the recognition of how land and relations to land have always already been differently understood and enacted; that is, all of the land, and not just symbolically. This is precisely why decolonization is necessarily unsettling, especially across lines of solidarity. “Decolonization never takes place unnoticed” (Fanon, 1963, p. 36). Settler colonialism and its decolonization implicates and unsettles everyone

#### The 1AC’s project of space exploration is situated in a ideology of expansionism that seeks to merely transmit where settlerism focuses on while obfuscating how it inevitably effects and exploits indigenous communities

Smiles 20 (Deondre Smiles; 10/26/20; Society and Space; *“The Settler Logics of (Outer) Space”*; accessed 12/13/21; <https://www.societyandspace.org/articles/the-settler-logics-of-outer-space>; Deondre Smiles, Ph.D. is a postdoctoral scholar at The Ohio State University. A citizen of the Leech Lake Band of Ojibwe, his ongoing research agenda is situated at the intersection of critical Indigenous geographies and political ecology, centered in the argument that tribal protection of remains, burial grounds, and more-than-human environments represents an effective form of ‘quotidian’ resistance against the settler colonial state.) HB

To most scholars, and certainly to the virtual majority of Indigenous peoples on Turtle Island, it is no secret that the country we call the United States of America was built upon the brutal subjugation of Indigenous people and Indigenous lands. Fueled by the American settler myths of terra nullius (no man’s land) and Manifest Destiny, the American settler state proceeded upon a project of cultural and physical genocide, with lasting effects that endure to the present day. The ‘settler myth’ permeates American culture. Words such as ‘pioneer’, the ‘West’, ‘Manifest Destiny’ grab the imagination as connected to the growth of the country in its early history. America sprang forth from a vast open ‘wilderness’. Of course, for Indigenous people, we know differently—these lands had complex cultural frameworks and political entities long before colonization. Words like ‘pioneer’ and ‘Manifest Destiny’, have deep meanings for us too, as they are indicative of the very real damage dealt against our cultures and nations, damage that we have had to work very hard to undo. Trump’s address raises key insights into the continuing logics of settler colonialism, as well as questions of its future trajectories. Trump’s invocation of ideas such as the ‘frontier’ and ‘taming the wilderness’ draws attention to the brutal violence that accompanied the building of the American state. Scholars such as Greg Grandin (2019) make the case that the frontier is part of what America is—whether it is the ‘Wild West’, or the U.S.-Mexican border, America is always contending with a frontier that must be defined. Language surrounding ‘frontier’ is troubling because it perpetuates the rationale of why the American settler state even exists—it could make better use of the land than Native people would, after all, they lived in wilderness. This myth tells us that what we know as the modern world was built through the hard work of European settlers; Indigenous people had nothing to offer or contribute. For someone like Mr. Trump, whose misgivings and hostility towards Native people have been historically documented, this myth fits well with his narrative as President—he is building a ‘new’ America, one that will return to its place of power and influence. The fact that similar language is being used around the potential of American power being extended to space could reasonably be expected, given the economic and military potential that comes from such a move. Space represents yet another ‘unknown’ to be conquered and bent to America’s will. However, such interplanetary conquest does not exist solely in outer space. I wish to situate the very real colonial legacies and violence associated with the desire to explore space, tracing the ways that they are perpetuated and reified through their destructive engagements with Indigenous peoples. I argue that a scientific venture such as space exploration does not exist in a vacuum, but instead draws from settler colonialism and feeds back into it through the prioritization of ‘science’ over Indigenous epistemologies. I begin by exploring the ways that space exploration by the American settler state is situated within questions of hegemony, imperialism, and terra nullius, including a brief synopsis of the controversy surrounding the planned construction of the Thirty Meter Telescope on Mauna Kea. I conclude by exploring Indigenous engagement with ‘space’ in both its Earthbound and beyond-earth forms as it relates to outer space, and what implications this might have for the ways we think about our engagement with space as the American settler state begins to turn its gaze skyward once again. I position this essay alongside a growing body of academic work, as well as journalistic endeavors (Haskins, 2020; Koren, 2020) that demands that the American settler colonial state exercise self-reflexivity as to why it engages with outer space, and who is advantaged and disadvantaged here on Earth as a result of this engagement. Settler Colonialism and ‘Space’ A brief exploration of what settler colonialism is, and its engagement with ‘space’ here on Earth is necessary to start. Settler colonialism is commonly understood to be a form of colonialism that is based upon the permanent presence of colonists upon land. This is a distinction from forms of colonialism based upon resource extraction (Wolfe, 2006; Veracini, 2013). What this means is that the settler colony is intimately tied with the space within which it exists—it cannot exist or sustain itself without settler control over land and space. This permanent presence upon land by ‘settlers’ is usually at the expense of the Indigenous, or original people, in a given space or territory. To reiterate: control over space is paramount. As Wolfe states, “Land is life—or at least, land is necessary for life. Thus, contests for land can be—indeed, often are—contests for life” (2006: 387). Without land, the settler state ‘dies’; conversely, deprivation of land from the indigenous population means that in settler logic, indigeneity dies (Povinelli, 2002; Wolfe, 2006.) The ultimate aims of settler colonialism is therefore the occupation and remaking of space. As Wolfe (2006) describes, the settler state seeks to make use of land and resources in order to continue on; whether that is through homesteading/residence, farming and agriculture, mining, or any number of activities that settler colonial logic deems necessary to its own survival. These activities are tied to a racist and hubristic logic that only settler society itself possesses the ability to make proper use of land and space (Wolfe, 2006). This is mated with a viewpoint of landscapes prior to European arrival as terra nullius, or empty land that was owned by no one, via European/Western conceptions of land ownership and tenure (Wolfe, 1994). Because of this overarching goal of space, there is an inherent anxiety in settler colonies about space, and how it can be occupied and subsequently rewritten to remove Indigenous presence. In Anglo settler colonies, this often takes place within a lens of conservation. Scholars such as Banivanua Mar (2010), Lannoy (2012), Wright (2014) and Tristan Ahtone (2019) have written extensively on the ways that settler reinscription of space can be extremely damaging to Indigenous people from a lens of ‘conservation’. However, dispossession of Indigenous space in favor of settler uses can also be tied to some of the most destructive forces of our time. For example, Aboriginal land in the Australian Outback was viewed as ‘empty’ land that was turned into weapons ranges where the British military tested nuclear weapons in the 1950s, which directly led to negative health effects upon Aboriginal communities downwind from the testing sites (Vincent, 2010). Indigenous nations in the United States have struggled with environmental damage related to military-industrial exploitation as well. But, what does this all look like in regard to outer space? In order to really understand the potential (settler) colonial logics of space exploration, we must go back and explore the ways in which space exploration became inextricably tied with questions of state hegemony and geopolitics during the Cold War. US and Soviet space programs were born partially out of military utility, and propaganda value—the ability to send a nuclear warhead across a great distance to strike the enemy via a ICBM and the accompanying geopolitical respect that came with such a capability was something that greatly appealed to the superpowers, and when the Soviets took an early lead in the ‘Space Race’ with Sputnik and their Luna probes, the United States poured money and resources into making up ground (Werth, 2004). The fear of not only falling behind the Soviets militarily as well as a perceived loss of prestige in the court of world opinion spurred the US onto a course of space exploration that led to the Apollo moon landings in the late 1960s and the early 70s (Werth, 2004; Cornish, 2019). I argue that this fits neatly into the American settler creation myth referenced by Trump—after ‘conquering’ a continent and bringing it under American dominion, why would the United States stop solely at ‘space’ on Earth? To return to Grandin (2019), space represented yet another frontier to be conquered and known by the settler colonial state; if not explicitly for the possibility of further settlement, then for the preservation of its existing spatial extent on Earth. However, scholars such as Alan Marshall (1995) have cautioned that newer logics of space exploration such as potential resource extraction tie in with existing military logics in a way that creates a new way of thinking about the ‘openness’ of outer space to the logics of empire, in what Marshall calls res nullius (1995: 51)[i]. But we cannot forget the concept of terra nullius and how our exploration of the stars has real effects on Indigenous landscapes here on Earth. We also cannot forget about forms of space exploration that may not be explicitly tied to military means. Doing so deprives us of another lens through which to view the tensions between settler and Indigenous views of space and to which end is useful. Indeed, even reinscribing of Indigenous space towards ‘peaceful’ settler space exploration have very real consequences for Indigenous sovereignty and Indigenous spaces. Perhaps the most prominent example of the fractures between settler space exploration and Indigenous peoples is the on-going controversy surrounding the construction of the Thirty Meter Telescope on Mauna Kea, on the island of Hawaii. While an extremely detailed description of the processes of construction on the TMT and the opposition presented to it by Native Hawai’ians and their allies is beyond the scope of this essay, and in fact is already expertly done by a number of scholars[ii], the controversy surrounding TMT is a prime example of the logics presented towards ‘space’ in both Earth-bound and beyond-Earth contexts by the settler colonial state as well as the violence that these logics place upon Indigenous spaces, such as Mauna Kea, which in particular already plays host to a number of telescopes and observatories (Witze, 2020). In particular, astronomers such as Chanda Prescod-Weinstein, Lucianne Walkowicz, and others have taken decisive action to push back against the idea that settler scientific advancement via space exploration should take precedence over Indigenous sovereignty in Earth-space. Prescod-Weinstein and Walkowicz, alongside Sarah Tuttle, Brian Nord and Hilding Neilson (2020) make clear that settler scientific pursuits such as building the TMT are simply new footnotes in a long history of colonial disrespect of Indigenous people and Indigenous spaces in the name of science, and that astronomy is not innocent of this disrespect. In fact, Native Hawai’ian scholars such as Iokepa Casumbal-Salazar strike at the heart of the professed neutrality of sciences like astronomy: One scientist told me that astronomy is a “benign science” because it is based on observation, and that it is universally beneficial because it offers “basic human knowledge” that everyone should know “like human anatomy.” Such a statement underscores the cultural bias within conventional notions of what constitutes the “human” and “knowledge.” In the absence of a critical self-reflection on this inherent ethnocentrism, the tacit claim to universal truth reproduces the cultural supremacy of Western science as self-evident. Here, the needs of astronomers for tall peaks in remote locations supplant the needs of Indigenous communities on whose ancestral territories these observatories are built (2017: 8). As Casumbal-Salazar and other scholars who have written about the TMT and the violence that has been done to Native Hawai’ians (such as police actions designed to dislodge blockades that prevented construction) as well as the potential violence to come such as the construction of the telescope have skillfully said, when it comes to the infringement upon Indigenous space by settler scientific endeavors tied to space exploration, there is no neutrality to be had—dispossession and violence are dispossession and violence, no matter the potential ‘good for humanity’ that might come about through these things. Such contestations over outer space and ethical engagement with previously unknown spaces will continue to happen. Outer space is not the first ‘final frontier’ (apologies to Gene Roddenberry) that has been discussed in settler logics and academic spaces. In terms of settler colonialism, scholars have written about how Antarctica was initially thought of as the ‘perfect’ settler colony—land that could be had without the messy business of pushing Indigenous people off of it (see Howkins 2010). Of course, we know now that engagement with Antarctica should be constrained by ecological concern—who is to say that these concerns will be heeded in ‘unpopulated’ space? What can be done to push back against these settler logics?

#### The aff’s concerns over space debris are a system of environmental stewardship which is entrenched in an ideology of techno-nationalism which seeks to create an exclusive domain for space-faring nations

Stroikos 16 (Dimitrios Stroikos; 2016; The London School of Economics; *“China, India in Space and the Orbit of International Society: Power, Status, and Order on the High Frontier”*; accessed 1/13/21; ask me for the pdf; Dimitrios Stroikos received his PhD in International Relations from the London School of Economics and Political Science and is an Associate Lecturer at the University of York; pages 81-86) pat RC/HB

Moreover, it is necessary to briefly say something about how techno-nationalism as a primary institution interacts with some of the other institutions of international space society. First, in many ways, techno-nationalism is complimentary to sovereign statehood because sovereignty in space is largely embedded in cosmopolitan and solidarist conceptions. This is partly why highly visible space projects define spacefaring hierarchies. Second, and consequently, techno-nationalism is also closely linked to great power status and great power management in the sense that different space capabilities also confer different levels of status and responsibilities in the management of international order in space. Likewise, in relation to diplomacy, highly visible techno-nationalist space feats can also offer a seat at the table of diplomatic initiatives and negotiations. Seen in this light, ‘high-visibility’ projects, such as space programmes are part of ‘recognition games’, which states play in order to acquire the status of a great power (Suzuki, 2008). As Cunningham (2009: 74) notes, ‘to be a superpower, one must be a “spacefaring” nation’. The Space Market Arguably, the economic factor has been one of the most neglected issues in the English School literature. Discussing some of the shortcomings of Bull’s work, Miller (1990: 74) pointed out in 1990, ‘a basic criticism of Bull’s account of international society’ is ‘that it does not include a strong economic component’ dealing with rules regarding trade, navigation, and investment and the common interests that permeate the sphere of economic activities. Since then, some important work has been done to bring together the economic sector and the English School, especially in the context of globalisation (Buzan, 2004; Buzan, 2005; Hurrell, 2007: 194-215). However, the question of how to consider the economic sector within the English School remains rather underdeveloped. According to Buzan, one response is to treat capitalism as a master institution, but he prefers the use of the market as a more neutral term, which has the additional merit of encompassing other practices, such as trade (Buzan, 2004: 193-4, Buzan, 2014a: 136). Consequently, given the growing globalisation and commercialisation of space activities (OECD, 2014: 9-10), there are good reasons for considering the space market as an emerging primary institution of international space society. Significantly, in some ways, since the advent of the Space Age, the space market has followed a parallel trajectory to the market as a distinctive institution at the global level. In particular, although the market was a key primary institution of the Western global international society during much of the Cold War, it has emerged as a sort of a global institution in the post-Cold War era (Buzan, 2014a: 138). Likewise, the space market was initially confined to American-led space activities, beginning as a US government initiative with the Communications Satellite Act in 1962, which led to the creation of the International Telecommunications Satellite Consortium (Intelsat) in 1964 (Moltz, 2014: 94). However, during the early Cold War, commercial activities were largely limited to the field of satellite communications and even commercial transatlantic cooperation in space was determined to a large extent by political and strategic factors and technology transfer considerations (Krige, 2013b). Equally, the idea of the commercialisation of space remained contested not the least because of the opposition of the Soviet Union and communist China to the market in general. This began to change only in the 1980s, when a number of space players emerged, including Europe and Japan, that challenged the US leadership in the fields of satellite manufacturing, launching capability, and other commercial space services. It was also during this period that the Soviet Union and China became less reluctant to get involved with commercial space activities (Krige, 2013a: 16-7). But it was after the end of the Cold War that the globalisation and commercialisation of space activities gradually led to the emergence of a global space market, which points to its inclusion as a primary institution of the international space society. According to a recent report by the Space Foundation (2015: 2), the global space economy grew up by 9 percent in 2014, totalling $330 billion, with commercial space activities accounting for the 76 percent of the global space economy and direct-to-home television services accounting for more than three-quarters of the commercial space sector. Even in the launch field, which has been traditionally reserved to the state largely due to national security and cost considerations, US small private companies have emerged like Space Exploration Technologies Corporation, known as SpaceX, and XCOR Aerospace. As Newlove-Eriksson and Eriksson (2013) argue, the globalisation of space activities has been underpinned by the growing importance of private authority and transnational Public-Private Partnerships (PPPs) and the blurred distinction between the military and civilian uses of space. Therefore, it makes sense to think of the space market as an institution of international space society. Yet, a number of points are worth noting here as they help to highlight the possibilities and limits of this move. First, despite all the attention paid to the privatisation of space travel promoted by space entrepreneurs of the likes of Elon Musk (SpaceX), Jeff Bezos (Blue Origin), and Richard Branson (Virgin Galactic), the privatisation of space should not be overstated. Not only does the degree of privatisation vary across space services and products (Moltz, 2014: 102-12), but governments also remain central actors in the space industry as key sources of initial investment and as customers for several space products and services (Brennan and Vecchi, 2011: 18, OECD, 2014: 17). Second, while it is clear that the argument over whether to have the market or not ended with the collapse of the Soviet Union, the tension between economic nationalism and economic liberalism is far from over, as there are not many states fully open to the forces of the global economy and many states support a form of capitalism that is embedded in economic nationalism. This points to the contested nature of the market as a primary institution in the sense that for many states the challenge of how to relate to the global market and make it more effective remains (Buzan, 2014a: 138). As far as international space society is concerned, it is necessary to note that the contested nature of the space market as an institution is reflected in the continuing dialectics between techno-nationalism and techno-globalism. It is commonplace among scholars to argue that Japan and China are two key examples of states that privilege a techno-nationalist approach to technology and innovation, including space technology. But even the United States has not been immune to techno-nationalist impulses. As Weiss (2014) shows, the enduring lead in high technology that the United States still enjoys is largely explained by the creation of not a liberal, but a hybrid political economy, whereby the national security state is interwoven with the commercial sector. NASA, of course, has been a key institution of the national security state since the beginning of the Space Age. But this has also been manifested in its recent efforts to catalyse the development of a commercial space industry through inviting competitive innovation (Weiss, 2014: 119-20, 27-8). This leads to the third point to make about how to understand the relationship between techno-nationalism and the space market. Because of the enduring influence of the former, it is tempting to see techno-nationalism as containing the space market (at least for the time being). Clearly, at one level, the space market can be understood as complementary to techno-nationalism in the ever-globalising international space society. Yet, at another level, the space market as a solidarist institution is staged as opposed to techno-nationalism. This tension is compounded by the fact that, in many ways, techno-nationalism occupies the crucial place of national sovereignty and territoriality in the sector of space considering that sovereignty in international space society is largely understood in cosmopolitan terms. Fourth, in discussing the market as a primary institution, Beeson and Breslin (2014) suggest that it makes more sense to treat the ‘developmental state’ and ‘regional production structures’ as primary institutions in East Asia rather than focusing on the market. This is an important consideration that serves to highlight how the global political economy is underpinned by significant regional derivations. Following from this, although it is apparent that the space market is a key feature of the social structure of international space society, it is possible to say that there are significant regional derivations. Perhaps the best expression of this is the Chinese and Indian variants of postcolonial techno-nationalism that still shape how the two rising Asian space powers relate to the space market. In light of the above, for now, it seems that there is some sort of hierarchy between techno-nationalism and the space market with the former subsuming the latter, especially with regards to space programmes in a postcolonial context. Certainly, the integration of China and India into the global space economy has accelerated over the last decades, but, as we shall see, techno-nationalism is still prominent in the ways in which the two Asian space powers approach space technology. Moreover, the space market remains contested as an emerging institution due to the ambiguity embedded in space law regarding space activities carried on by private actors. This process is further complicated by the inherent dual-use nature of space technology and the blurring of the distinction between the private and public realms (Newlove-Eriksson and Eriksson 2013). Environmental Stewardship There is now a burgeoning literature that deals with the relationship between international society and global environmentalism and assesses the extent to which environmental stewardship can be seen as a nascent institution of international society. Recent efforts to find ways to mitigate space debris as well as to create a normative framework for the sustainability of space are illustrative of how environmental stewardship is gradually becoming an institution in space. For example, in 2007, COPUOS adopted the ‘Space Debris Mitigation Guidelines’, which were wrought by the international Inter-Agency Debris Coordination Committee (IADC), consisting of experts from thirteen space agencies (United Nations Office for Outer Space Affairs, 2010). Moreover, as discussed earlier, in 2010, COPUOS formed the Working Group on the Long-term Sustainability of Outer Space Activities. Notably, the European Union proposal for a Code of Conduct for Outer Space also includes provisions on space debris control and mitigation (Council of the European Union, 2008: 9; Dickow, 2009: 159). Thus, there are grounds for considering environmental stewardship as an emerging institution of international space society. Indeed, the growing number of governments, private firms, and non-state actors that emphasise the importance of the sustainable utilisation of space suggests that space sustainability has emerged as a key norm. However, what should be noted is that these developments reflect a more pragmatic approach to maintain the space environment sustainable for the effective use of space rather than an expression of cosmopolitan values. Consequently, in the subsequent chapters, rather than examining in detail the engagement of China and India with environmental stewardship as a nascent institution in space, the focus will be on the emerging norm of space sustainability as a key great power responsibility in managing international space order and the implications of this development for China and India as aspiring great powers. Concluding Remarks Although it is clear that there are a number of ways of understanding the international politics of space, it may be worth going beyond standard theoretical approaches to understand how order is maintained in space. Drawing on key English School concepts, this chapter suggests that it is possible to conceptualise space not merely as a system, but also as an international society with a distinct social structure. This exercise of concept development is important both analytically and hermeneutically, given the notion of an exclusive club of space-faring countries. The chapter developed this argument further by highlighting how the nature of outer space as a distinctive sectoral interstate society is manifested in the ways in which its primary institutions are differentiated from such institutions at the global level (space war, space law, cosmopolitan sovereignty, space diplomacy, balance of power, great power management, techno-nationalism, space market, and environmental stewardship) in a historical and comparative context. In doing so, the chapter helps to highlight the constitutive impact of these institutions on the norms that shape the behaviour of the space-faring states.

#### The alternative is a refusal of the affirmative – an engagement in the process of decentering settler subjectivities and injecting indigenous knowledge – in this project, refusal constitutes a multi-faceted method towards decolonization

Grande 18 (Sandy Grande; 2018; Routledge Publishing; *“Refusing the University,”* a chapter in the series of essays *“Toward What Justice?: Describing Diverse Dreams of Justice in Education”*; accessed 12/22/21; ask me for the pdf; Sandy Grande is associate professor and Chair of the Education Department at Connecticut College. Her research interfaces critical Indigenous theories with the concerns of education; 58-62) HB

Taking into account the power relations of both capitalism and white supremacy, Indigenous scholars posit refusal as a positive stance that is: less oriented around attaining an affirmative form of recognition… and more about critically revaluating, reconstructing and redeploying culture and tradition in ways that seek to prefigure… a radical alternative to the structural and psycho-affective facets of colonial domination. (Coulthard, 2007, p. 456) In this way, Indigenous refusal both negatively rejects the (false) promise of inclusion and other inducements of the settler state and positively asserts Indigenous sovereignty and peoplehood. In Mohawk Interruptus (2014), Audra Simpson theorizes refusal as distinct from resistance in that it does not take authority as a given. More specifically, at the heart of the text, she theorizes refusal at the “level of method and representation,” exposing the colonialist underpinnings of the “demand to know” as a settler logic. In response, she develops the notion of ethnographic refusal as a stance or space for Indigenous subjects to limit access to what is knowable and to being known, articulating how refusal works “in everyday encounters to enunciate repeatedly to ourselves and to outsiders that ‘this is who we are, this is who you are, these are my rights’” (Simpson, 2007, p. 73). Mignolo (2011) and Quijano (1991) similarly take up refusal in relation to knowledge formation, asserting Indigenous knowledge itself as a form of refusal; a space of epistemic disobedience that is “delinked” from Western, liberal, capitalist understandings of knowledge as production. Gómez-Barris (2012) theorizes the Mapuche hunger strikes as “an extreme bodily performance and political instantiation” of refusal, an act wherein their starving bodies upon the land literally enact what it means to live in a state of permanent war (p. 120). Understood as expressions of sovereignty, such acts of refusal threaten the settler state, carrying dire if not deadly consequences for Indigenous subjects. As noted by Ferguson (2015), “capitalist settler states prefer resistance” because it can be “negotiated or recognized,” but refusal “throws into doubt” the entire system and is therefore more dangerous. While within the university the consequences of academic refusal are much less dire, they still carry a risk. To refuse inclusion offends institutional authorities offering “the gift” of belonging, creating conditions of precarity for the refuser. For example, refusal to participate in the politics of respectability that characterizes institutional governance can result in social isolation, administrative retribution, and struggles with self-worth. Similarly, the refusal to comply with the normative structures of tenure and promotion (e.g., emphasizing quantity over quality; publishing in “mainstream” journals) can and does lead to increased marginalization, exploitation, and job loss.16 And, in a system where Indigenous scholars comprise less than 1% of the professorate, such consequences not only bear hardships for individuals but also whole communities. That said, academic “rewards” and inducements accessed through recognition-based politics can have even deeper consequences. As Jodi Byrd (2011) reminds us, the colonization of Indigenous lands, bodies, and minds will not be ended by “further inclusion or more participation” (Byrd, 2011, p. xxvi). The inspirational work of Black radical and Indigenous scholars compels thinking beyond the limits of academic recognition and about the generative spaces of refusal that not only reject settler logics but also foster possibilities of co-resistance. The prospect of coalition re-raises one of the initial animating questions of this chapter: What kinds of solidarities can be developed among peoples with a shared commitment to working beyond the imperatives of capital and the settler state? Clearly, despite the ubiquitous and often overly facile calls for solidarity, building effective coalitions is deeply challenging, even among insurgent scholars. Within this particular context, tensions between Indigenous sovereignty and decolonial projects and anti-racist, social justice projects, raise a series of suspicions: whether calls for Indigenous sovereignty somehow elide the a priori condition of blackness (the “unsovereign” subject),17 whether anti-racist struggles sufficiently account for Indigenous sovereignty as a land-based struggle elucidated outside regimes of property, and whether theorizations of settler colonialism sufficiently account for the forces and structures of white supremacy, racial slavery, and antiblackness. Rather than posit such tensions as terminally incommensurable, however, I want to suggest a parallel politics of dialectical co-resistance. When Black peoples can still be killed but not murdered; when Indians are still made to disappear; when (Indigenous) land and Black bodies are still destroyed and accumulated for settler profit; it is incumbent upon all those who claim a commitment to refusing the white supremacist, capitalist, settler state, to do the hard work of building “interconnected movements for decolonization” (Coulthard, 2014). The struggle is real. It is both material and psychological, both method and politics, and thus must necessarily straddle the both/and (as opposed to either/or) coordinates of revolutionary change. In terms of process, this means working simultaneously beyond resistance and through the enactment of refusal—as fugitive, abolitionist, and Indigenous, sovereign subjects. Within the context of the university, this means replacing calls for more inclusive and diverse, safe spaces within the university with the development of a network of sovereign, safe houses outside the university. Kelley reminds us of the long history of this struggle, recalling the Institute of the Black World at Atlanta University (1969), the Mississippi Freedom Schools, and the work of Black feminists Patricia Robinson, Donna Middleton, and Patricia Haden as inspirational models. As a contemporary model, he references Harney and Moten’s vision of the undercommons as a space of possibility: a fugitive space wherein the pursuit of knowledge is not perceived as a path toward upward mobility and material wealth but rather as a means toward eradicating oppression in all of its forms (Undercommoning Collective). The ultimate goal, according to Kelley (2016), is to create in the present a future that overthrows the logic of neoliberalism. Scholars within Native studies similarly build upon a long tradition of refusing the university, theorizing from and about sovereignty through land-based models of education. Whereas a fugitive flees and seeks to escape, the Indigenous stands ground or, as Deborah Bird points out, “to get in the way of settler colonization, all the native has to do is stay at home” (as cited in Wolfe, 2006, p. 388). The ultimate goal of Indigenous refusal is Indigenous resurgence; a struggle that includes but is not limited to the return of Indigenous land. Again, while the aims may be different (and in some sense competing), efforts toward the development of parallel projects of co-resistance are possible through vigilant and sustained engagement. The “common ground” here is not necessarily literal but rather conceptual, a corpus of shared ethics and analytics: anti-capitalist, feminist, anti-colonial. Rather than allies, we are accomplices—plotting the death but not murder of the settler university. Toward this end, I offer some additional strategies for refusing the university: First and foremost, we need to commit to collectivity—to staging a refusal of the individualist promise project of the settler state and its attendant institutions. This requires that we engage in a radical and ongoing reflexivity about who we are and how we situate ourselves in the world. This includes but is not limited to a refusal of the cycle of individualized inducements—particularly, the awards, appointments, and grants that require complicity or allegiance to institutions that continue to oppress and dispossess. It is also a call to refuse the perceived imperative to self-promote, to brand one’s work and body. This includes all the personal webpages, incessant Facebook updates, and Twitter feeds featuring our latest accomplishments, publications, grants, rewards, etc. etc. Just. Make. It. Stop. The journey is not about self—which means it is not about promotion and tenure—it is about the disruption and dismantling of those structures and processes that create hierarchies of individual worth and labor. Second, we must commit to reciprocity—the kind that is primarily about being answerable to those communities we claim as our own and those we claim to serve. It is about being answerable to each other and our work. One of the many things lost to the pressures of the publish-or-perish, quantity-over-quality neoliberal regime is the loss of good critique. We have come to confuse support with sycophantic praise and critical evaluation with personal injury. Through the ethic of reciprocity, we need to remind ourselves that accountability to the collective requires a commitment to engage, extend, trouble, speak back to, and intensify our words and deeds. Third, we need to commit to mutuality, which implies reciprocity but is ultimately more encompassing. It is about the development of social relations not contingent upon the imperatives of capital—that refuses exploitation at the same time as it radically asserts connection, particularly to land. Inherent to a land-based ethic is a commitment to slowness and to the arc of inter-generational resurgence and transformation. One of the many ways that the academy recapitulates colonial logics is through the overvaluing of fast, new, young, and individualist voices and the undervaluing of slow, elder, and collective ones. And in such a system, relations and paradigms of connection, mutuality, and collectivity are inevitably undermined. For Indigenous peoples, such begin and end with land, centering questions of what it means to be a good relative. Toward this end, I have been thinking a lot lately about the formation of a new scholarly collective, one that writes and researches under a nom de guerre—like the Black feminist scholars and activists who wrote under and through the Combahee River Collective or the more recent collective of scholars and activists publishing as “the uncertain commons.”18 If furthering the aims of insurgence and resurgence (and not individual recognition) is what we hold paramount, then perhaps one of the most radical refusals we can authorize is to work together as one; to enact a kind of Zapatismo scholarship and a balaclava politics where the work of the collectivity is intentionally structured to obscure and transcend the single voice, body, and life. Together we could write in refusal of liberal, essentialist forms of identity politics, of individualist inducements, of capitalist imperatives, and other productivist logics of accumulation. This is what love as refusal looks like. It is the un-demand, the un-desire to be either of or in the university. It is the radical assertion to be on: land. Decolonial love is land.

#### The role of the ballot should be to center indigenous scholarship – any project of research should begin and end with placing the indigenous demands and resistance at it’s forefront. Our role as settlers specifically obligates us to center our politics in the context of ensuring accountability

Carlson 16 (Elizabeth Carlson; 10/21/16; Settler Colonial Studies; *“Anti-colonial methodologies and practices for settler colonial studies”*; accessed 12/28/21; ask me for the pdf; Elizabeth Carlson is an Assistant Professor at the School of Social Work at Laurentian University; pages 9-10) HB

Relational and epistemic accountability to Indigenous peoples Arlo Kempf says that ‘where anticolonialism is a tool used to invoke resistance for the colonized, it is a tool used to invoke accountability for the colonizer’. 42 Relational accountability should be a cornerstone of settler colonial studies. I believe settler colonial studies and scholars should ethically and overtly place themselves in relationship to the centuries of Indigenous oral, and later academic scholarship that conceptualizes and resists settler colonialism without necessarily using the term: SCT may be revelatory to many settler scholars, but Indigenous people have been speaking for a long time about colonial continuities based on their lived experiences. Some SCTs have sought to connect with these discussions and to foreground Indigenous resistance, survival and agency. Others, however, seem to use SCT as a pathway to explain the colonial encounter without engaging with Indigenous people and experiences – either on the grounds that this structural analysis already conceptually explains Indigenous experience, or because Indigenous resistance is rendered invisible.43 Ethical settler colonial theory (SCT) would recognize the foundational role Indigenous scholarship has in critiques of settler colonialism. It would acknowledge the limitations of settler scholars in articulating settler colonialism without dialogue with Indigenous peoples, and take as its norm making this dialogue evident. In my view, it is critical that we not view settler colonial studies as a new or unique field being established, which would enact a discovery narrative and contribute to Indigenous erasure, but rather take a longer and broader view. Indigenous oral and academic scholars are indeed the originators of this work. This space is not empty. Of course, powerful forces of socialization and discipline impact scholars in the academy. There is much pressure to claim unique space, to establish a name for ourselves, and to make academic discoveries. I am suggesting that settler colonial studies and anti-colonial scholars resist these hegemonic pressures and maintain a higher anti-colonial ethic. As has been argued, ‘the theory itself places ethical demands on us as settlers, including the demand that we actively refuse its potential to re-empower our own academic voices and to marginalize Indigenous resistance’. 44 As settler scholars, we can reposition our work relationally and contextually with humility and accountability. We can centre Indigenous resistance, knowledges, and scholarship in our work, and contextualize our work in Indigenous sovereignty. We can view oral Indigenous scholarship as legitimate scholarly sources. We can acknowledge explicitly and often the Indigenous traditions of resistance and scholarship that have taught us and provided the foundations for our work. If our work has no foundation of Indigenous scholarship and mentorship, I believe our contributions to settler colonial studies are even more deeply problematic.

## Case

### Undervirw

1. **debate beinbg ab subjectivity is net good - allows for kids to talk ab their positionalities and create real solutions, a bucnh of 16 year olds cant solve extinction but things like the trans narrative project prove that real change can be made**

#### Outer Space Laws are unclear – private corporations are still capable of escaping due to loopholes in the plan.

**Green and Stark 17** [Christopher and Eda, “Outer Space Treaty and Beyond: Do Existing Space Laws Put an Astronomical Barrier to Private IP Rights in Space?”, JDSUPRA. 8 September 2020 https://www.jdsupra.com/legalnews/outer-space-treaty-beyond-do-existing-44028/] //DebateDrills LC

Our **limited body of space law provides little guidance**. The first international treaty, the “Outer Space Treaty,” was signed by the U.S., Russia, and the U.K. in 1967, quickly followed by the Rescue Agreement. Over the next two decades, three other treaties—the Liability Convention, the Registration Convention, and the Moon Agreement—were also signed by these nations, with most countries following in their footsteps.[3] But after that rapid succession of international treaties, there have since been few others. These five documents form the basis of the international space law we have today, but **none address** the issue of [intellectual property rights in space](https://www.fr.com/fish-litigation/ip-rights-outer-space/). Rather, upon inspection, it appears that **the stated purpose of these treaties may be antithetical to intellectual property protection.**

The “Outer Space Treaty” espouses communal themes in characterizing space as the “province of all mankind,” the “common heritage of mankind” and to the “benefit of all countries.”[4] Unsurprisingly, Article II of the Outer Space Treaty prohibits any appropriation of areas in space, keeping in line with its principle of communal property.[5] On the other hand, **patents are fundamentally territorial and grant monopoly rights for a period of time. Applied to space, it is unclear just what is open for patent protections.**

For example, **can private companies patent orbital patterns of satellites**? Currently, companies may patent the technology or design of satellites that stay in a particular orbit, even if not the orbital pattern itself.[6] The practical implications of this are significant, especially with the advent of satellite constellations. If particular satellite technologies, and, indirectly, their orbital patterns, are patentable, then a significant portion of space may be occupied by one satellite constellation, i.e. one company alone.[7] Does this private apportionment of space run counter to our notions of sharing space? Some argue that **the Outer Space Treaty only bans sovereign appropriation and does not limit private entities from exerting claims**. Others counter that private property rights flow from sovereign property claims, so the former is meaningless without the latter.[8] So the question remains, **can the stated goals of sharing outer space be reconciled with the proprietary nature of patents**?

**Our current corpus of space treaties comes from a period of history when space exploration was undertaken primarily by governments** rather than private actors. The cooperative goals were likely a reaction to the time, as the world was coming out of a charged space race. **The silence of these space treaties on intellectual property rights presents an opportunity for modern-day agreements to provide patent protections for private companies**. Without robust international agreement on patents for space, we may even see less international cooperation as companies refuse to divulge their discoveries.[9] Now, as more and more private companies enter space exploration and carry the torch of innovation, **it is more important than ever to strike a balance between sharing our “common heritage” and providing patent protections that incentivize invention.**[10]

#### The affirmative has no enforcement mechanism – private corporations can just circumvent since they have the funding to launch rockets on their own.

**Sheetz 21** [Michael, “Elon Musk’s SpaceX raised about $850 million, jumping valuation to about $74 billion”, CNBC. 16 February 2021. https://www.cnbc.com/2021/02/16/elon-musks-spacex-raised-850-million-at-419point99-a-share.html] //DebateDrills LC

**SpaceX completed another monster equity funding round of $850 million last week**, people familiar with the financing told CNBC, sending **the company’s valuation skyrocketing to about $74 billion.**

**The company raised the new funds at $419.99 a share**, those people said — or just 1 cent below the $420 price that [Elon Musk](https://www.cnbc.com/elon-musk/) [made infamous in 2018](https://www.cnbc.com/2018/09/28/sec-says-elon-musk-at-tesla-chose-420-price-as-pot-reference.html) when he declared **he had “funding secured” to** take [Tesla](https://www.cnbc.com/quotes/TSLA) privateat that price.

The latest round also represents **a jump of about 60% in the company’s valuation** from its previous round in August, when [S**paceX raised near $2 billion at a $46 billion valuation**](https://www.cnbc.com/2020/10/14/tesla-investor-ron-baron-spacex-has-a-chance-to-be-just-as-large.html).

SpaceX did not immediately respond to CNBC’s request for comment. In addition to SpaceX further building a war chest for its ambitious plans, **company insiders and existing investors were able to sell $750 million in a secondary transaction**, one of the people said.

The people spoke on condition of anonymity because SpaceX is not a publicly traded company and the fundraising talks were private. SpaceX raised only a portion of the funding available in the marketplace, with one person telling CNBC that **the company received “insane demand” of about $6 billion in offers over the course of just three days**.

#### The ozone is fine—many checks, upward trends

EPA 17 (The Environmental Protection Agency is an independent agency of the United States federal government for environmental protection. ”Current state of the Ozone Layer” 9/14/17. <https://www.epa.gov/ozone-layer-protection/current-state-ozone-layer>) ME.

Key Resource EPA Achievements in Stratospheric Ozone Protection Atmospheric levels of ozone-depleting substances (ODSHelpODSA compound that contributes to stratospheric ozone depletion. ODS include chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), halons, methyl bromide, carbon tetrachloride, hydrobromofluorocarbons, chlorobromomethane, and methyl chloroform. ODS are generally very stable in the troposphere and only degrade under intense ultraviolet light in the stratosphere. When they break down, they release chlorine or bromine atoms, which then deplete ozone. A detailed list (http://www.epa.gov/ozone/science/ods/index.html) of class I and class II substances with their ODPs, GWPs, and CAS numbers are available.) rapidly increased before the implementation of the Montreal Protocol on Substances that Deplete the Ozone Layer and its subsequent revisions and amendments. However, the atmospheric levels of nearly all these substances have declined substantially in the past two decades. Additional Information Basic Ozone Layer Science Addressing Ozone Layer Depletion Continued declines in ODS emissions are expected to result in a near complete recovery of the ozone layer near the middle of the 21st century. The long time scale for this recovery is due to the slow rate at which ODS are removed from the atmosphere by natural processes. Many organizations monitor the status of the ozone layer: Scientific Assessment of Ozone Depletion: 2014 EXIT This is the most recent World Meteorological Organization (WMO) and United Nations Environmental Programme (UNEP) assessment. It contains the most up-to-date understanding of ozone depletion and reflects the thinking of over 312 international scientific experts who contributed to its preparation and review. A related document provides Questions and Answers about the Ozone Layer: 2014 Update.EXIT Environmental Effects of Ozone Depletion and Its Interactions with Climate Change: 2014 Assessment EXIT From UNEP, this report highlights the latest data and research into environmental effects of ozone depletion and its interactions with climate change. Current Status of the Antarctic Ozone Hole View a page from the National Oceanic and Atmospheric Administration (NOAA) Climate Prediction Center's website, which shows weekly updates of the hole. National Oceanic and Atmospheric Administration (NOAA) Earth System Research Laboratory (ESRL) ESRL's Global Monitoring Division conducts research on the depletion of the global stratospheric ozone layer and Antarctic ozone. NOAA Climate Prediction Center Products: Stratosphere Provides current satellite ozone maps, the ultraviolet UVUVUltraviolet radiation is a portion of the electromagnetic spectrum with wavelengths shorter than visible light. The sun produces UV, which is commonly split into three bands: UVA, UVB, and UVC. UVA is not absorbed by ozone. UVB is mostly absorbed by ozone, although some reaches the Earth. UVC is completely absorbed by ozone and normal oxygen. NASA provides more information on their web site (http://www.nas.nasa.gov/About/Education/Ozone/radiation.htm index bulletin, and other data and images. NOAA Satellite and Information Service Provides live data from satellites that monitor stratospheric ozone and UV radiation. WMO Global Atmosphere Watch EXIT Includes information about WMO's atmospheric monitoring and research. NASA provides daily images, data, and information from satellite instruments that monitor the ozone layer and the ozone hole, a thinning break in the stratospheric ozone layer. Designation of amount of such depletion as an "ozone hole" is made when the detected amount of depletion exceeds fifty percent. Seasonal ozone holes have been observed over both the Antarctic and Arctic regions, part of Canada, and the extreme northeastern United States. National Aeronautics and Space Administration (NASA) Ozone Hole Watch United Nations Environment Programme's Ozone Secretariat EXIT. This website provides information on the Secretariat for the Vienna Convention for the Protection of the Ozone Layer EXIT, and the Montreal Protocol on Substances that Deplete the Ozone Layer EXIT. World Ozone and Ultraviolet Radiation Data Centre EXIT. Find ozone information from Environment Canada and the WMO. Environment Canada also shares current and time series graphs of ozone and UV radiation over North America EXIT.

#### No disease impact---empirics, conditioning, coevolution, and science

Easterbrook 18—Author of eleven books, he has been a staff writer, national correspondent or contributing editor of The Atlantic for nearly 40 years, was a fellow in economics, then in government studies, at the Brookings Institution, and a fellow in international affairs at the Fulbright Foundation [Gregg, February 2018, *It's Better Than It Looks: Reasons for Optimism in an Age of Fear*, Chapter 2: Why, Despite All Our Bad Habits, Do We Keep Living Longer?, pgs 37-9, Google Play] AMarb

DISEASES CAUSE SUFFERING BUT DO not run wild mainly because the biosphere is elaborately conditioned to defeat germs and viruses. So far as is known, there has never been an unstoppable contagion—"never" in this sense not meaning "recently" but never: not during the 3.8 billion years life has existed. Mammal bodies contain an amazing range of proteins and biological pathways that arose to counteract contagion. Animals, plants, and pathogens developed jointly: the living ecosystem has been resisting disease for eons. Had any disease ever "won," the result would have been lights-out for the disease, which would have lost its hosts. That plants, mammals, and people are here is proof the diseases don't win. Beyond the natural evolution of immune systems are the social evolutions of medical science and public health practices. "People seem to believe society is becoming more vulnerable to plagues, but public health gets better all the time," says Margaret Liu, a researcher at the Karolinska Institute, a medical school in Stockholm, who is among the world's leading vaccine specialists. The body of a person in basic good health—that is, not already sickened by something else—can fight off most pathogens.

#### Food insecurity doesn’t cause war

Vestby et al 18 [Jonas Vestby, Doctoral Researcher at the Peace Research Institute Oslo, Ida Rudolfsen, doctoral researcher at the Department of Peace and Conflict Research at Uppsala University and PRIO, and Halvard Buhaug, Research Professor at the Peace Research Institute Oslo (PRIO); Professor of Political Science at the Norwegian University of Science and Technology (NTNU); and Associate Editor of the Journal of Peace Research and Political Geography, “Does hunger cause conflict?”, 5/18/18, https://blogs.prio.org/ClimateAndConflict/2018/05/does-hunger-cause-conflict/]

It is perhaps surprising, then, that there is little scholarly merit in the notion that a short-term reduction in access to food increases the probability that conflict will break out. This is because to start or participate in violent conflict requires people to have both the means and the will. Most people on the brink of starvation are not in the position to resort to violence, whether against the government or other social groups. In fact, the urban middle classes tend to be the most likely to protest against rises in food prices, since they often have the best opportunities, the most energy, and the best skills to coordinate and participate in protests.

Accordingly, there is a widespread misapprehension that social unrest in periods of high food prices relates primarily to food shortages. In reality, the sources of discontent are considerably more complex – linked to political structures, land ownership, corruption, the desire for democratic reforms and general economic problems – where the price of food is seen in the context of general increases in the cost of living. Research has shown that while the international media have a tendency to seek simple resource-related explanations – such as drought or famine – for conflicts in the Global South, debates in the local media are permeated by more complex political relationships.

#### Warming’s inevitable, attitudes won’t change, and humans will adapt

Little 18 (Michael Little is a Distinguished Professor of Anthropology, Binghamton University. Research area: Human adaptation to the environment. “Ask a Scientist from Binghamton University: Can we overcome global warming?” 1/14/18. <https://www.pressconnects.com/story/news/education/2018/01/14/binghamton-university-can-we-overcome-global-warming-ask-scientist/1032431001/>) ME.

QUESTION: Can humans overcome global warming at this point? ANSWER: A simple answer to your question, Harrison, and as agreed on by expert climatologists around the world, is ‘no’! As you probably know, global warming is caused by elevations in greenhouse gases. Increased temperatures of the Earth's surface result from increases in carbon dioxide (CO2) and other "greenhouse gases" (water vapor, methane, ozone, etc.) that trap solar radiation in the atmosphere. Since the Industrial Revolution in the late 1700s, when we began burning lots of carbon-based fossil fuels (e.g., wood, coal, oil), CO2 levels have been rising in the atmosphere. In the year 1700, atmospheric CO2 was around 270 parts per million (ppm) of air; it is now greater than 400 ppm, and is expected to rise to more than 500 ppm by the end of this century. It is also clear that this speeded-up pattern of global warming is anthropogenic, that is, it has been caused by human action. Some have argued that climate change is a "natural" process over which we have no control. But there is abundant evidence now that the accelerated warming is a human event. Although there is a move to use more non-fossil fuel energy, such as solar and wind energy, our excessive use of fossil fuels has set in motion a pattern of global warming that cannot be overcome and will persist for at least a thousand years. We can, however, slow down the process somewhat by a greater reliance on solar and wind energy. Yet this is difficult to do because some governments (such as the United States) do not fully recognize the problem and have not exercised their political power to slow the use of fossil fuels and encourage the development of other energy sources. Many industries are unwilling to voluntarily reduce fossil fuel use because it might reduce their profits.

#### Global ADR development already exists – solves.

Zachary Keck, Wohlstetter Public Affairs Fellow at the Nonproliferation Policy Education Center, 6-17-2018, "Space Is Truly the Final Frontier (For the Next Great War)," National Interest, https://nationalinterest.org/blog/the-buzz/space-truly-the-final-frontier-the-next-great-war-26284

The first type of dual-use spacecraft—called active debris removal (ADR)—are designed to deal with the rapidly growing problem of space debris. One preliminary ADR example came from China in June 2016 when it launched the "Aolong-1" spacecraft, which was a demonstrator device. These ADR spacecraft—which are also being developed by the United States, European Union, and Russia— can retrieve debris floating in space. Then, the ADR spacecraft bring the debris down to re-enter the atmosphere, destroying it by the intense frictional heat. Alternatively, they can also instead place the debris in graveyard orbits to reduce the probability of colliding with operational satellites.

ADR spacecraft are unavoidable given the growing nature of the space debris problem. Previous estimates have suggested that starting in 2020 the world would need to remove an average of five massive objects (such as decommissioned satellites and derelict rockets) from low earth orbit (LEO) each year to deal with the problem. Others have estimated that the number is closer to ten that will need removal. However, as Chow points out, these estimates fail to consider the massive expansion in the number of LEO satellites entering space. As of August 31, 2017, only 1,071 LEO satellites were orbiting the earth. Over the next decade, however, between 14,000 and 16,000 additional LEOs are expected to be launched. This makes the space debris problem more difficult, and debris removal spacecraft that much more important.

The problem is that the same spacecraft that can remove debris can also be used as “space stalkers.” Space stalkers, as Chow previously described them, "could be placed on orbit in peacetime and maneuvered to tailgate U.S. satellites during a crisis. At a moment's notice, they could simultaneously attack multiple critical satellites from such close proximity that the United States would not have time to prevent damage." Since ADR spacecraft are designed to get close to and remove debris, they necessarily have the capability to get close to and snatch essential satellites that U.S. military relies on.

Additionally, ADR spacecraft are not the only dual-use problem. Many of the same countries developing ADR capabilities are also building maintenance spacecraft. These spacecraft—called on-orbit servicing (OOS)—also maneuver themselves to be in physical contact with satellites to perform any number of maintenance tasks. These tasks include, "high-resolution inspection; correction of some types of mechanical anomalies, such as solar array and antenna deployment malfunctions; relocation and other orbital maneuvers; installation of attachable payloads to enable upgrades or new capabilities; and refueling to extend the service life of satellites."

Once again, the issue is that these OOS spacecraft can be quickly repurposed to take out critical satellites during a crisis or conflict. In fact, these OOS spacecraft are even better space stalkers than ADR ones because they have more advanced rendezvous and robotic capabilities.

This is not some distant problem. Chow notes that the first ADR and OOS spacecraft are likely to become operational sometime in the early part of the next decade. “In effect,” he writes, “weaponization of space will happen by default in the early 2020s and beyond and will be unavoidable and irreversible.” It will only grow worse with time as more countries launch ADR and OOS spacecraft and their capabilities for rendezvous and proximity operations improve.

#### Time frame – Kessler effect 200 years away.

Stube, 17 - PhD in law @ Johann Wolfgang Goethe University Frankfurt

Peter Stubbe, State Accountability for Space Debris: A Legal Study of Responsibility for Polluting the Space Environment and Liability for Damage Caused by Space Debris, Koninklijke Brill Publishing, ISBN 978-90-04-31407-8, p. 27-31

The prediction of possible scenarios of the future evolution of the debris p o p ulation involves many uncertainties. Long-term forecasting means the prediction of the evolution of the future debris environment in time periods of decades or even centuries. Predictions are based on models84 that work with certain assumptions, and altering these parameters significantly influences the outcomes of the predictions. Assumptions on the future space traffic and on the initial object environment are particularly critical to the results of modeling efforts.85 A well-known pattern for the evolution of the debris population is the so-called Kessler effect’, which assumes that there is a certain collision probability among space objects because many satellites operate in similar orbital regions. These collisions create fragments, and thus additional objects in the respective orbits, which in turn enhances the risk of further collisions. Consequently, the num ber of objects and collisions increases exponentially and eventually results in the formation of a self-sustaining debris belt aroundthe Earth. While it has long been assumed that such a process of collisional cascading is likely to occur only in a very long-term perspective (meaning a time 1 n of several hundred years),87 a consensus has evolved in recent years that an uncontrolled growth of the debris population in certain altitudes could become reality much sooner.88 In fact, a recent cooperative study undertaken by various space agencies in the scope of i a d c shows that the current l e o debris population is unstable, even if current mitigation measures are applied. The study concludes:

Even with a 90% implementation of the commonly-adopted mitigation measures [...] the l e o debris population is expected to increase by an average of **30% in the next 200 years.** The population growth is primarily driven by catastrophic collisions between 700 and 1000 km altitudes and such collisions are likely to occur every 5 to 9 years.89